

L Number	Hits	Search Text	DB	Time stamp
1	9	(US-6060746-\$ or US-4903089-\$ or US-6664143-\$ or US-5106778-\$ or US-5324673-\$ or US-6197641-\$ or US-6027975-\$ or US-6387758-\$ or US-6686604-\$).did.	USPAT	2004/06/10 19:12
2	50	(vertical adj transistor) and ((dielectric or insulat\$4) near3 plug)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/06/10 19:13
3	48	((vertical adj transistor) and ((dielectric or insulat\$4) near3 plug)) not ((US-6060746-\$ or US-4903089-\$ or US-6664143-\$ or US-5106778-\$ or US-5324673-\$ or US-6197641-\$ or US-6027975-\$ or US-6387758-\$ or US-6686604-\$).did.)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/06/10 19:13
4	18	((vertical adj transistor) and ((dielectric or insulat\$4) near3 plug)) not ((US-6060746-\$ or US-4903089-\$ or US-6664143-\$ or US-5106778-\$ or US-5324673-\$ or US-6197641-\$ or US-6027975-\$ or US-6387758-\$ or US-6686604-\$).did.)) and (monocrystalline)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/06/10 19:24
5	2	"6664143"	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/06/10 19:24
-	0	6664143.URPN.	USPAT	2004/02/12 11:40
-	0	(vertical adj field adj transistor).ti.	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 11:45
-	153	(vertical adj field adj effect adj transistor).ti.	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 12:02
-	3	((((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) and (monocrystalline adj silicon)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 11:48
-	21	((((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) not (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) and (monocrystalline adj silicon))	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 11:48
-	3	("6020239" "6127230" "6197640").PN.	USPAT	2004/02/12 11:53
-	1	6387758.URPN.	USPAT	2004/02/12 11:54
-	1	"6033957".PN.	USPAT	2004/02/12 11:55
-	25	("4716548" "4774556" "4796228" "4876580" "4920065" "4929988" "4964080" "4979004" "5001526" "5006909" "5016063" "5016067" "5017977" "5071782" "5078498" "5146426" "5258634" "5338953" "5350937" "5382540" "5386132" "5460994" "5467305" "5497017" "5574299").PN.	USPAT	2004/02/12 11:57
-	4	6376312.URPN.	USPAT	2004/02/12 11:58

-	56	((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) not (zhang-zhibo.in. ("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)))	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 12:03
-	47	((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) not (zhang-zhibo.in. ("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench))) and (trench and substrate)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 12:03
-	14	((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) not (zhang-zhibo.in. ("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench))) and (trench and substrate) and (plug)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 12:06
-	33	((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) not (zhang-zhibo.in. ("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench))) and (trench and substrate) not (((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) not (zhang-zhibo.in. ("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench))) and (trench and substrate) and (plug)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 12:07

-	26	<p>(((((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) not (zhang-zhibo.in. ("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)))) and (trench and substrate)) not (((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) not (zhang-zhibo.in. ("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)))) and (trench and substrate)) and (plug))) and ((side adj wall) or (sidewall))</p>	<p>USPAT; US-PGPUB; EPO; JPO; IBM_TDB</p>	<p>2004/02/12 12:11</p>
-	9	<p>((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) not (zhang-zhibo.in. ("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)))) not (((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) not (zhang-zhibo.in. ("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)))) and (trench and substrate))</p>	<p>USPAT; US-PGPUB; EPO; JPO; IBM_TDB</p>	<p>2004/02/12 12:11</p>
-	92	<p>(vertical adj field adj effect adj transistor).clm.</p>	<p>USPAT; US-PGPUB; EPO; JPO; IBM_TDB</p>	<p>2004/02/12 12:12</p>
-	72	<p>((vertical adj field adj effect adj transistor).clm.) not ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon))</p>	<p>USPAT; US-PGPUB; EPO; JPO; IBM_TDB</p>	<p>2004/02/12 12:13</p>
-	63	<p>((vertical adj field adj effect adj transistor).clm.) not ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon))) not (zhang-zhibo.in. ("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench))))</p>	<p>USPAT; US-PGPUB; EPO; JPO; IBM_TDB</p>	<p>2004/02/12 12:13</p>

-	4	(((vertical adj field adj effect adj transistor).clm.) not ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon))) not (zhang-zhibo.in. ("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench))) and (monocrystalline)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 12:14
-	59	(((vertical adj field adj effect adj transistor).clm.) not ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon))) not (zhang-zhibo.in. ("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench))) not (((vertical adj field adj effect adj transistor).clm.) not ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon))) not (zhang-zhibo.in. ("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench))) and (monocrystalline)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 12:14
-	23	(((vertical adj field adj effect adj transistor).clm.) not ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon))) not (zhang-zhibo.in. ("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench))) not (((vertical adj field adj effect adj transistor).clm.) not ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon))) not (zhang-zhibo.in. ("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench))) and (monocrystalline))) and (trench)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 12:17

-	36	<p>(((((vertical adj field adj effect adj transistor).clm.) not ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon))) not (zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench))) not (((vertical adj field adj effect adj transistor).clm.) not ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon))) not (zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench))) and (monocrystalline))) not (((vertical adj field adj effect adj transistor).clm.) not ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon))) not (zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN. (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench))) and (monocrystalline))) and (trench))</p>	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 13:29
-	2	"6387758"	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 13:29
-	151	((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 13:32
-	802	(vertical adj3 transistor).ti.	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 13:33
-	54	((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 13:33
-	24	(((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 13:35

-	62	(vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 13:35
-	1	"6664143"	USPÄT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 13:35
-	6	((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599"))).PN.	USPÄT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 13:35
-	6	zhang-zhibo.in.	USPÄT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 13:35
-	5	("5106778" "5739057" "5757038" "6049106" "6420751").PN.	USPAT	2004/02/12 13:35
-	8	("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.	USPAT	2004/02/12 13:35
-	14	5106778.URPN.	USPAT	2004/02/12 13:35
-	6	("4670768" "5324673" "5612563" "5969384" "6015725" "6020257").PN.	USPAT	2004/02/12 13:41
-	15	6197641.URPN.	USPAT	2004/02/12 13:43
-	15	6197641.URPN.	USPAT	2004/02/12 13:45
-	5	("4670768" "5733811" "5872037" "5918155" "5943574").PN.	USPAT	2004/02/12 13:46
-	720	((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599"))).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:09
-	359	((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599"))).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.) and (groove or trench or opening)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:07

-	3	(((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599")).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain adj substrate	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:07
-	245	(((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599")).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain and substrate	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:07
-	158	(((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599")).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain and substrate and (sidewall)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:07

-	26	<p> ((((vertical adj3 transistor).ti.) not ((((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599")).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain and substrate) and (sidewall)) and (plug) </p>	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:08
-	0	<p> ((((vertical adj3 transistor).ti.) not ((((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599")).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain and substrate) and (sidewall)) and (plug)) not (((((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599")).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain and substrate) and (sidewall)) </p>	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:08

-	132	((((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599")).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain and substrate) and (sidewall)) not ((((((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599")).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain and substrate) and (sidewall)) and (plug))	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:08
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-	0	(((((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599")).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain and substrate) and (sidewall)) not ((((((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599")).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain and substrate) and (sidewall)) and (plug))) and ((plug with (dielectric or insulat\$4)))	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:08
-	21	(vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4))	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:16
-	91	(vertical adj transistor) and (plug with (dielectric or insulat\$4))	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:30
-	70	((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4)))	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:17
-	5	((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4))) and (monocrystalline)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:18
-	65	((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4))) not (((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4))) and (monocrystalline))	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:18

-	61	(((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4)))) not (((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4)))) and (monocrystalline))) and (trench or opening or groove)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:19
-	49	(((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4)))) not (((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4)))) and (monocrystalline))) and (trench or opening or groove)) and (substrate and source and drain)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:26
-	12	(((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4)))) not (((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4)))) and (monocrystalline))) and (trench or opening or groove)) not (((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4)))) not (((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4)))) and (monocrystalline))) and (trench or opening or groove)) and (substrate and source and drain)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:26
-	642	(vertical adj transistor) and (trench with (dielectric or insulat\$4))	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:48
-	574	((vertical adj transistor) and (trench with (dielectric or insulat\$4))) not ((vertical adj transistor) and (plug with (dielectric or insulat\$4)))	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:31

-	566	<p>((vertical adj transistor) and (trench with (dielectric or insulat\$4))) not ((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not((((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599")).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain adj substrate) ((((((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599")).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain and substrate) and (sidewall)) and (plug)) ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4))) (((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4))))</p>	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:31
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-	125	<p> ((((vertical adj transistor) and (trench with (dielectric or insulat\$4)))) not (((vertical adj transistor) and (plug with (dielectric or insulat\$4)))) not((((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599"))).PN.) zhang-zhibo.in. ((("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ((("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain adj substrate) ((((((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599"))).PN.) zhang-zhibo.in. ((("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ((("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain and substrate) and (sidewall)) and (plug)) ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4))) (((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4)))))) and (crystalline) </p>	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:42
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-	111	((((vertical adj transistor) and (trench with (dielectric or insulat\$4)))) not ((vertical adj transistor) and (plug with (dielectric or insulat\$4)))) not((((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599"))).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain adj substrate) ((((((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599"))).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain and substrate) and (sidewall)) and (plug)) ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4))) (((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4)))))) and (crystalline)) and (source and drain and substrate)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:32
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-	103	((((vertical adj transistor) and (trench with (dielectric or insulat\$4))) not ((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not((((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599")).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain adj substrate) ((((((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599")).PN.) zhang-zhibo.in. (("5106778" "5739057" "5757038" "6049106" "6420751").PN.) (("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain and substrate) and (sidewall)) and (plug)) ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4))) (((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4)))))) and (crystalline)) and (source and drain and substrate)) and (channel)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:42
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[illegible]

-	205	((vertical adj transistor) and (trench with (dielectric or insulat\$4))) and (trench same ((sidewall or (side adj wall)) with (monosilicon or silicon)))	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:51
-	167	((vertical adj transistor) and (trench with (dielectric or insulat\$4))) and (trench same ((sidewall or (side adj wall)) with (monosilicon or silicon))) not (((vertical adj transistor) and (trench with (dielectric or insulat\$4))) not ((vertical adj transistor) and (plug with (dielectric or insulat\$4)))) not((((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599")).PN.) zhang-zhibo.in. ((("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ((("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain adj substrate) ((((((vertical adj3 transistor).ti.) not (((vertical adj3 transistor).ti.) and trench and (monocrystalline adj silicon)) "20020060338" (((vertical adj field adj effect adj transistor).ti.) not zhang-zhibo.in.) and (trench)) ((vertical adj field adj effect adj transistor) and (monocrystalline adj silicon)) "6664143" (((("6420751") or ("6049106") or ("5739057") or ("5757038") or ("5106778") or ("0989599")).PN.) zhang-zhibo.in. ((("5106778" "5739057" "5757038" "6049106" "6420751").PN.) ((("4378629" "4530149" "4543706" "4586240" "4677451" "4713358" "4757029" "4840923").PN.) 5106778.URPN.)) and (groove or trench or opening)) and source and drain and substrate) and (sidewall)) and (plug)) ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4))) (((vertical adj transistor) and (plug with (dielectric or insulat\$4))) not ((vertical adj transistor) and (monocrystalline adj silicon) and (plug with (dielectric or insulat\$4)))))) and (crystalline))	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 17:51
-	1	"20020060338"	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/12 19:21